APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,857	07/16/2003	Nagraj Ramachandran Alur	ARC920030027US1	1799

28342	7590	09/20/2006

SAMUEL A. KASSATLY LAW OFFICE
20690 VIEW OAKS WAY
SAN JOSE, CA 95120

EXAMINER
PUENTE, EMERSON C

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/621,857	ALUR ET AL.
	Examiner	Art Unit	
	Emerson C. Puente	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-17,21,22,24-27,31,32 and 34-37* is/are rejected.

7)☒ Claim(s) *7,18-20,23,28-30,33 and 38-40* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *7/16/03*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This action is made **Non-Final.**

Claims 1-40 have been examined.

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because figure 3 is informal. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

Claims 5, 6, 22, and 32 are objected to because of the following informalities:

In regards to claim 5, a claim cannot be dependent upon itself. Claim 5 cites " the backup and restore objects" previously disclosed in claim 4, and as such, should depend on claim 4. Please change "The method of claim 5" to "The method of claim 4".

In regards to claim 6, please change "delivery" to "deliver" (see line 4 of claim).

In regards to claim 22, please change "delivery" to "deliver" (see last line of claim).

In regards to claim 32, please change "delivery" to "deliver" (see last line of claim).

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 21-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In regards to claim 21, a computer program product, without the computer-readable medium needed to realize the computer program's functionality, constitutes nonstatutory subject matter. See MPEP § 2106. Examiner suggests amending "medium" to "computer readable medium" (see line 2 of claim).

The remaining claims are rejected for being dependent on claim 21.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8-17, 21, 22, 24-27, 31, 32,and 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,950,871 of Honma et al. referred hereinafter "Honma".

In regards to claim 1, Honma discloses a method of dynamically optimizing a plurality of application data resources, comprising:

adjusting an execution strategy based on a variable system environment and a variable

system workload. Honma discloses when additional tape drives are added, indicating a variable

system environment, adjusting backing up to two jobs concurrently instead of one job (see

column 16 lines 50-51) and when there is a load congestion in a particular volume, indicating a

variable system workload, moving storage of data to other volumes (see column 10 lines 40-45

and column 11 line 63 to column 12 line 2).

dynamically refining the execution strategy to deliver a contracted quality of service and

optimize the plurality of application data resources. Honma discloses the present invention

provides backup to ensure the restoration of the system in the event of a disaster (see column 5

lines 30-35 and column 9 lines 37-45), indicating a contracted quality of service. As the addition

of a tape drive results in the execution strategy adjusting or refining to back up two jobs

concurrently instead of just one at a time, Honma discloses dynamically refining the execution

strategy to deliver a contracted quality of service and optimize the plurality of application data

resources.

In regards to claim 2, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein the variable system environment comprises a modified hardware.

Honma discloses making a schedule for backing up data in the server (see column 16 lines 35-

40). Honma further discloses being able to add storage units (see column 16 lines 1-4) and if

there are determined to have multiple tape drives, then backup jobs can be executed concurrently

(see column 16 lines 50-51). Thus, when an additional tape drive is added, indicating a modified

hardware, the executing strategy is adjusted from backing one job at a time to two jobs at a time.

In regards to claim 3, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the variable system environment comprises a modified software. Honma discloses when applications are being executed, the state of the DBMS is changed, indicating a modified software, which allow the server to make backup data to tape units (see column 6 lines 27-32).

In regards to claim 4, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the application data resources comprise backup and restore objects (see column 11 lines 10-15).

In regards to claim 5, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the variable workload accounts for the number of queries, transactions, and uses in a system that generates data modifications to the backup and restore objects. Honma discloses wherein the load condition includes the number of operation received in a predetermined amount of time (see column 11 lines 55-59), indicating the number of queries, transactions, and uses in a system. Furthermore, as the operations include write operations (see column 11 lines 55-59), and write operations generates data modifications to the backup and restore objects, Honma discloses a system that generates data modifications to the backup and restore objects.

In regards to claim 6, Honma discloses the claim limitations as discussed above. Honma further discloses wherein if any one or more of the variable system environment or the variable system workload is determined to potentially, adversely or positively impact a guaranteed quality of service, QoS, to be delivered to a system, readjusting the execution strategy to delivery the guaranteed QoS. Honma discloses the addition of a tape drive enables backing up to two jobs

concurrently (see column 16 lines 50-51), indicating readjusting execution strategy to deliver the

guaranteed QoS. As the additional tape drive enables two jobs to be backup up instead of one job

at the same time, the additional tape drive positively impacting a guaranteed quality of service,

QoS.

In regards to claim 8, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein the execution strategy comprises a backup and restore plan (see column

11 lines 10-15).

In regards to claim 9, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein adjusting the execution strategy comprises determining if a backup

frequency needs to be adjusted, when new objects are added or existing objects are dropped.

Honma discloses when data is received, backup frequency is adjusted depending on the

frequency the data is accessed (see column 11 line 19-24).

In regards to claim 10, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein adjusting the execution strategy comprises determining a backup

technology to be used (see column 11 lines 18-19).

In regards to claim 11, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein adjusting the execution strategy comprises determining a restore

technology to be used (see column 11 lines 10-12).

In regards to claim 12, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein dynamically refining the execution strategy comprises continuously

monitoring and responding to the variable system environment and workload, without client

input. Honma discloses a centralized monitoring console that directs how to operate and manage the backup (see column 11 lines 18-19 and 27-31).

In regards to claim 13, Honma discloses the claim limitations as discussed above. Honma further discloses wherein dynamically refining the execution strategy comprises refining a coarseness of the execution strategy to improve a guaranteed quality of service, QoS, based on actual runtime statistics (see column 12 lines 16-18).

In regards to claim 14, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the application data resources comprise an eclectic mix of application data resources (see column 4 lines 27-30).

In regards to claim 15, Honma discloses the claim limitations as discussed above. Honma further discloses wherein dynamically refining the execution strategy comprises spanning the execution strategy across multiple systems (see figure 20 and column 17 lines 31-37).

In regards to claim 16, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the plurality of application data resources are allowable at an application level. Honma discloses the storage devices storing data from application servers (see column 16 lines 14-16).

In regards to claim 17, Honma discloses the claim limitations as discussed above. Honma further discloses associating a plurality of application dimensions with allowable technologies. Honma discloses backup frequency, indicating an application dimension, associated with different levels of backup frequency (see column 11 lines 19-24), indicating allowable technologies. Honma further discloses backup destination, indicating an application dimension,

associated with different speed of storage volumes (see column 12 lines 7-10), indicating

allowable technologies.

In regards to claim 21, Honma discloses a computer program product having a plurality

of instruction codes embedded on a medium for dynamically optimizing a plurality of

application data resources, comprising:

a first set of instruction codes for adjusting an execution strategy based on a variable

system environment and a variable system workload. Honma discloses when additional tape

drives are added, indicating a variable system environment, adjusting backing up to two jobs

concurrently instead of one job (see column 16 lines 50-51) and when there is a load congestion

in a particular volume, indicating a variable system workload, moving storage of data to other

volumes (see column 10 lines 40-45 and column 11 line 63 to column 12 line 2).

a second set of instruction codes for dynamically refining the execution strategy to

deliver a contracted quality of service and optimize the plurality of application data resources.

Honma discloses the present invention provides backup to ensure the restoration of the system in

the event of a disaster (see column 5 lines 30-35 and column 9 lines 37-45), indicating a

contracted quality of service. As the addition of a tape drive results in the execution strategy

adjusting or refining to back up two jobs concurrently instead of just one at a time, Honma

discloses dynamically refining the execution strategy to deliver a contracted quality of service

and optimize the plurality of application data resources.

In regards to claim 22, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein if any one or more of the variable system environment or the variable

system workload is determined to potentially, adversely or positively impact a guaranteed quality

of service, QoS, to be delivered to a system, the first set of instruction codes readjusts the

execution strategy to delivery the guaranteed QoS. Honma discloses the addition of a tape drive

enables backing up to two jobs concurrently (see column 16 lines 50-51), indicating readjusting

execution strategy to deliver the guaranteed QoS. As the additional tape drive enables two jobs to

be backup up instead of one job at the same time, the additional tape drive positively impacting a

guaranteed quality of service, QoS.

In regards to claim 24, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein the execution strategy comprises a backup and restore plan (see column

11 lines 10-15).

In regards to claim 25, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein the second set of instruction codes refines a coarseness of the execution

strategy to improve a guaranteed quality of service, QoS based on actual runtime statistics (see

column 12 lines 16-18).

In regards to claim 26, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein the second set of instruction codes spans the execution strategy across

multiple systems (see figure 20 and column 17 lines 31-37).

In regards to claim 27, Honma discloses the claim limitations as discussed above. Honma

further discloses associating a plurality of application dimensions with allowable technologies.

Honma discloses backup frequency, indicating an application dimension, associated with

different levels of backup frequency (see column 11 lines 19-24), indicating allowable

technologies. Honma further discloses backup destination, indicating an application dimension,

associated with different speed of storage volumes (see column 12 lines 7-10), indicating

allowable technologies.

In regards to claim 31, Honma discloses a system for dynamically optimizing a plurality

of application data resources, comprising:

means for adjusting an execution strategy based on a variable system environment and a

variable system workload. Honma discloses when additional tape drives are added, indicating a

variable system environment, adjusting backing up to two jobs concurrently instead of one job

(see column 16 lines 50-51) and when there is a load congestion in a particular volume,

indicating a variable system workload, moving storage of data to other volumes (see column 10

lines 40-45 and column 11 line 63 to column 12 line 2).

means for dynamically refining the execution strategy to deliver a contracted quality of

service and optimize the plurality of application data resources. Honma discloses the present

invention provides backup to ensure the restoration of the system in the event of a disaster (see

column 5 lines 30-35 and column 9 lines 37-45), indicating a contracted quality of service. As

the addition of a tape drive results in the execution strategy adjusting or refining to back up two

jobs concurrently instead of just one at a time, Honma discloses dynamically refining the

execution strategy to deliver a contracted quality of service and optimize the plurality of

application data resources.

In regards to claim 32, Honma discloses the claim limitations as discussed above. Honma

further discloses wherein if any one or more of the variable system environment or the variable

system workload is determined to potentially, adversely or positively impact a guaranteed quality

of service, QoS, to be delivered to a system, the adjusting means readjusts the execution strategy

to delivery the guaranteed QoS. Honma discloses the addition of a tape drive enables backing up to two jobs concurrently (see column 16 lines 50-51), indicating readjusting execution strategy to deliver the guaranteed QoS. As the additional tape drive enables two jobs to be backup up instead of one job at the same time, the additional tape drive positively impacting a guaranteed quality of service, QoS.

In regards to claim 34, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the execution strategy comprises a backup and restore plan (see column 11 lines 10-15).

In regards to claim 35, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the refining means refines a coarseness of the execution strategy to improve a guaranteed quality of service, QoS based on actual runtime statistics (see column 12 lines 16-18).

In regards to claim 36, Honma discloses the claim limitations as discussed above. Honma further discloses wherein the refining means spans the execution strategy across multiple systems (see figure 20 and column 17 lines 31-37).

In regards to claim 37, Honma discloses the claim limitations as discussed above. Honma further discloses means for associating a plurality of application dimensions with allowable technologies. Honma discloses backup frequency, indicating an application dimension, associated with different levels of backup frequency (see column 11 lines 19-24), indicating allowable technologies. Honma further discloses backup destination, indicating an application dimension, associated with different speed of storage volumes (see column 12 lines 7-10), indicating allowable technologies.

Allowable Subject Matter

Claims 7, 18-20, 33, and 38-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 23 and 28-30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
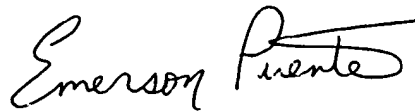
See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emerson C. Puente whose telephone number is (571) 272-3652. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emerson Puente
Examiner
AU 2113